Data Sheet (Cat.No.TMAB-09025)

Anti-MSH2 Polyclonal Antibody 2

Product Details

Ig Type:	IgG
Reactivity:	Human,Mouse (predicted:Cow)
Molecular Weight:	Theoretical: 105 kDa. Actual: 110 kDa.
Purification:	Protein A purified

Applications

Verified Activity:	Sample: Lane 1: Mouse Thymus tissue lysates Lane 2: Mouse Testis tissue lysates Lane 3: Mouse NIH/3T3 cell lysates Lane 4: Human Hela cell lysates Lane 5: Human SW480 cell lysates Primary: Anti-MSH2 (TMAB-09025) at 1/1000 dilution Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution Predicted band size: 105 kDa Observed band size: 110 kDa
Application:	WB
Recommended	WB: 1:500-2000

Properties

Stability & Storage:	Store at 2°C-8°C for 1 month. Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles.
Shipping:	Shipping with blue ice.

Antigen Details

Immunogen:	KLH conjugated synthetic peptide: human MSH-2
Antigen Species:	Human
Gene ID:	4436
Uniprot ID:	P43246

Research Background

Component of the post-replicative DNA mismatch repair system (MMR). Forms two different heterodimers: MutS alpha (MSH2-MSH6 heterodimer) and MutS beta (MSH2-MSH3 heterodimer) which binds to DNA mismatches thereby initiating DNA repair. When bound, heterodimers bend the DNA helix and shields approximately 20 base pairs. MutS alpha recognizes single base mismatches and dinucleotide insertion-deletion loops (IDL) in the DNA. MutS beta recognizes larger insertion-deletion loops up to 13 nucleotides long. After mismatch binding, MutS alpha or beta forms a ternary complex with the MutL alpha heterodimer, which is thought to be responsible for directing the downstream MMR events, including strand discrimination, excision, and resynthesis. ATP binding and hydrolysis play a pivotal role in mismatch repair functions. The ATPase activity associated with MutS alpha regulates binding similar to a molecular switch: mismatched DNA provokes ADP-->ATP exchange, resulting in a discernible conformational

transition that converts MutS alpha into a sliding clamp capable of hydrolysis-independent diffusion along the DNA backbone. This transition is crucial for mismatch repair. MutS alpha may also play a role in DNA homologous recombination repair. In melanocytes may modulate both UV-B-induced cell cycle regulation and apoptosis.

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